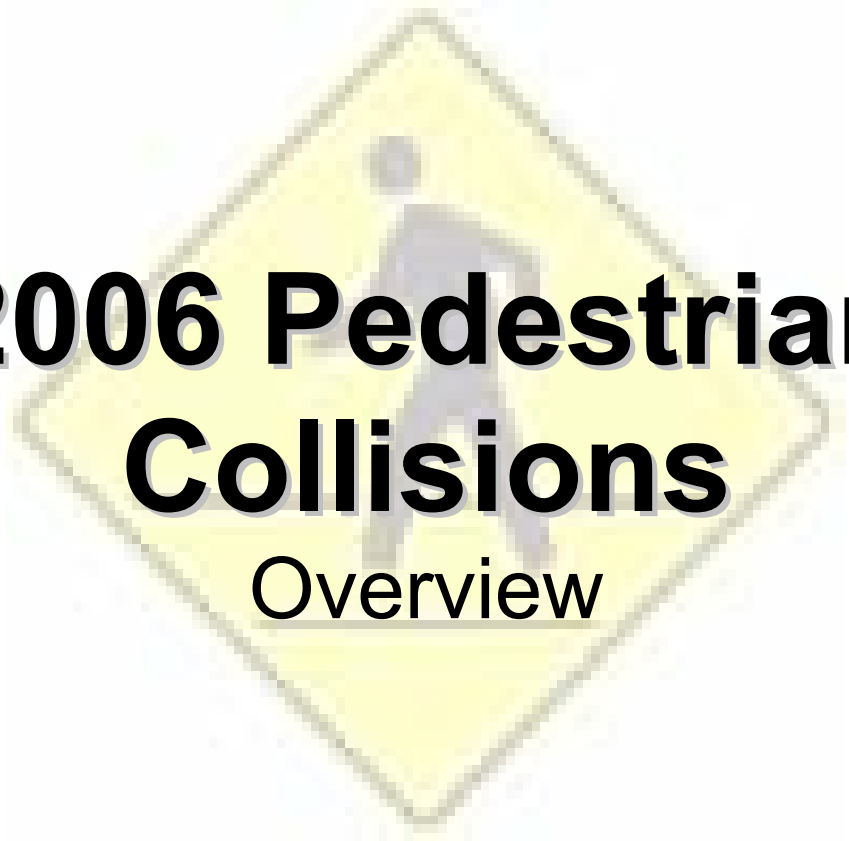
MONTGOMERY COUNTY
DEPARTMENT OF POLICE



2006 Pedestrian Collisions

Overview

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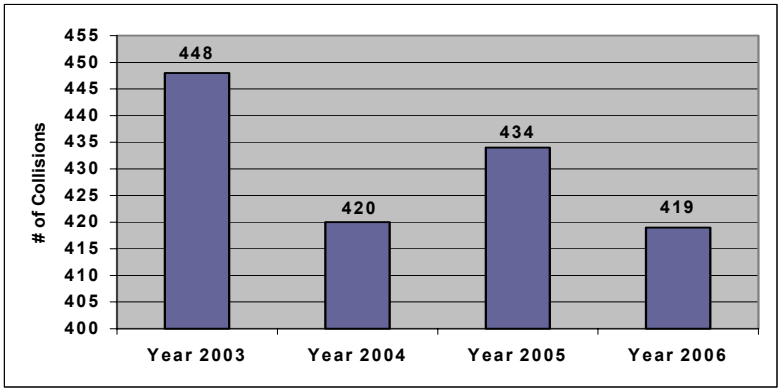
CAS # 07-077

OVERVIEW

In 2006 there were 419 pedestrian-related collisions that were reported in Montgomery County. **This is a decline of 3.5% from the 434 collisions handled in 2005; and down 6.5% from the 448 collisions handled in 2003**. Since 2003, the average number of pedestrian collisions annually is 430.



Preliminary data for 2006 shows a total of 22,598 collision calls received where an incident was verified; 12,252 of these resulted in a written report. The 419 pedestrian-related collisions are 3.4% of all collisions for which a report was written.

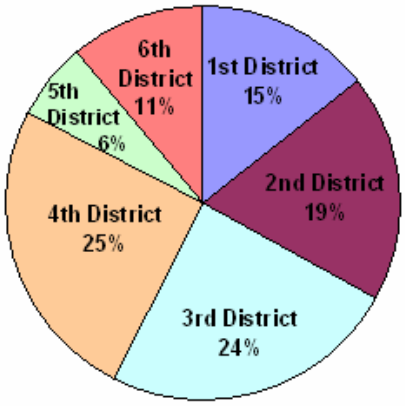
Source	2004	2005	2006*
Collision Calls, No Report (CFS)	11,093	11,308	10,346
Collision Calls, Report Written	13,052	12,236	12,252
Total Verified Collisions	*24,145*	*23,544*	*22,598*

*2006 figures are projected, based on calls for service data

The data for this report was generated from the Maryland Automated Accident Reporting System (MAARS) reports and is based solely on pedestrian collisions where a MAARS report was written. Maryland law does not require a written police report for all collisions. A report is written if there are injuries; if the vehicles are rendered inoperable and require towing; and for a 'hit and run' incident. Any non-fatal pedestrian collision occurring in the City of Takoma Park or handled by Maryland State Police (MSP) were not included in this data. As well, while the MAARS report coding considers a cyclist to be a pedestrian, bicycle-vehicle collisions were not included in this analysis.

For three of the past four years, the 2nd, 3rd and 4th Districts have had the highest number of pedestrian-related collisions; each of these districts contains pedestrian-rich urban areas and densely populated residential areas. For 2006, the 3rd District had the highest increase with 16 additional collisions than the previous year, +18.8%. The 2nd District had an increase of 5 collisions and the 4th District had an increase of a single collision, (+6.8% and +1%, respectively).

2006 PEDESTRIAN COLLISIONS BY PATROL DISTRICT



The remaining three districts had decreases in pedestrian collisions during 2006, when compared to the previous year. The largest total decrease was seen in the 1st District, with 23 fewer pedestrian collisions, -27.4%. The 5th and 6th Districts also showed decreases, equating to four and ten fewer collisions, respectively.

FOUR-YEAR COMPARISON

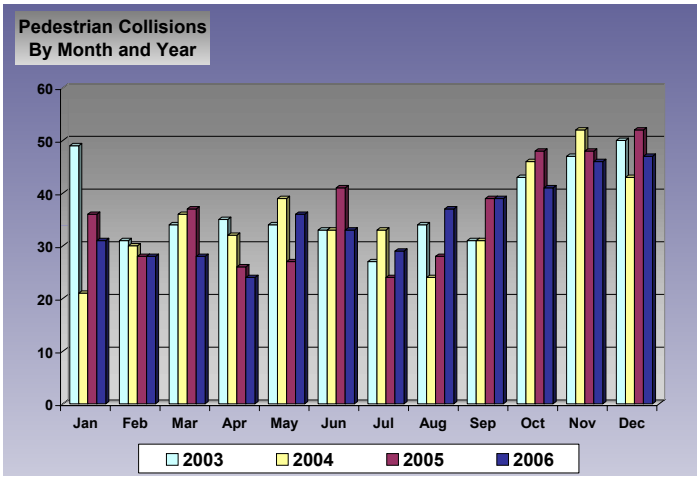
+/- percentages reflect changes when compared to 2006 figures

District	2006	2005	+/-	2004	+/-	2003	+/-
1D	**61**	84	-27.4%	62	-1.6%	80	-23.8%
2D	**78**	73	+6.8%	84	-7.1%	97	-19.6%
3D	**101**	85	+18.8%	110	-8.2%	96	+5.2%
4D	**106**	105	+1%	86	+23.3%	92	+15.2%
5D	**27**	31	-12.9%	27	N/C	27	N/C
6D	**46**	56	-17.9%	51	-9.8%	56	-17.9%
Total	***419***	*434*	*-3.5%*	*420*	*-.2%*	*448*	*-6.5%*

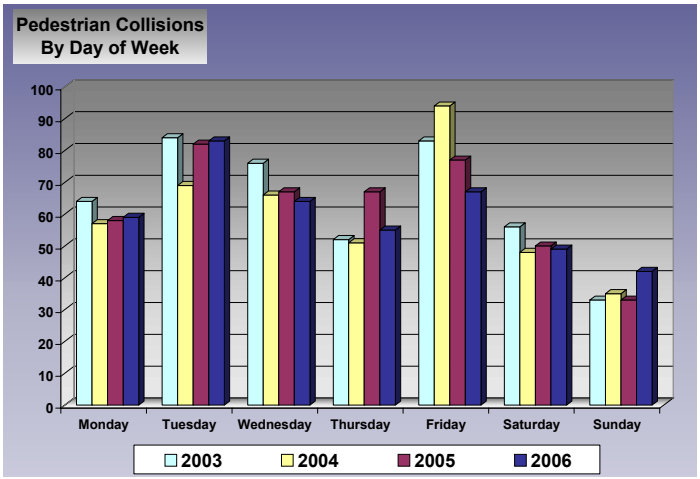
TEMPORAL INFORMATION

In 2006, over half of the pedestrian collisions occurred during daylight hours (241 collisions, 57.5**%);** compared to 70% of collisions in 2005 and 64.5% of collisions in 2004.

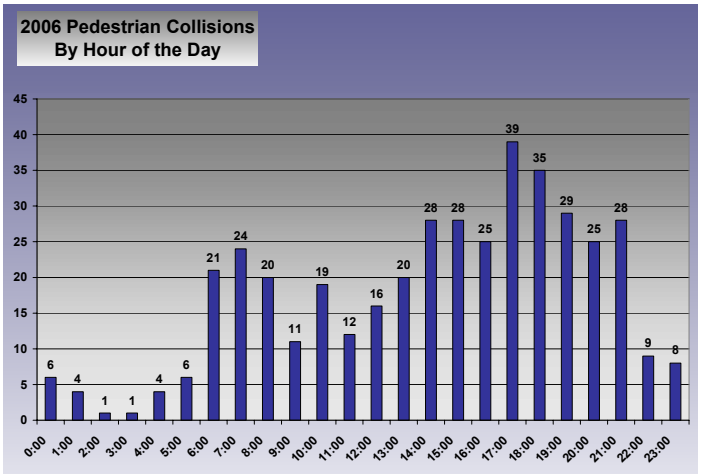
Monthly pedestrian collision totals for 2006 were fairly consistent with the highs and lows of the prior years. **For the past four years, the numbers of pedestrian collisions were high during the months of October, November, and December.** With increased hours of darkness and Daylight Savings, just over half of collisions during these three months occur during hours of darkness or partial darkness: 21.6% during dawn or dusk, 26.9% while it is dark and there are street lights, and 3.7% while it is dark w/o street lights. For the same period, 44% of collisions occurred during daylight, and the remaining incidents were missing this information.



Countywide, pedestrian-related collisions occurred primarily on weekdays. Tuesdays had the most pedestrian collisions in 2005 and 2006 with 83 incidents (19.8%) and 82 incidents (18.9%), respectively; compared to the weekly average of 60 incidents in 2006 and 62 incidents in 2005.



Collectively, afternoons and evenings are the peak times for pedestrian-related collisions, the time of day when there is a high concentration of vehicle and pedestrian traffic. In 2006, 61.3% of all pedestrian collisions occurred between 13:00 and 21:59 hours (257 collisions). Each of these hours had at least 25 collisions cumulatively for the year. Also as expected, morning hours have a spike in collisions with 20 or more collisions for each hour between the 6:00 and 8:00 hours

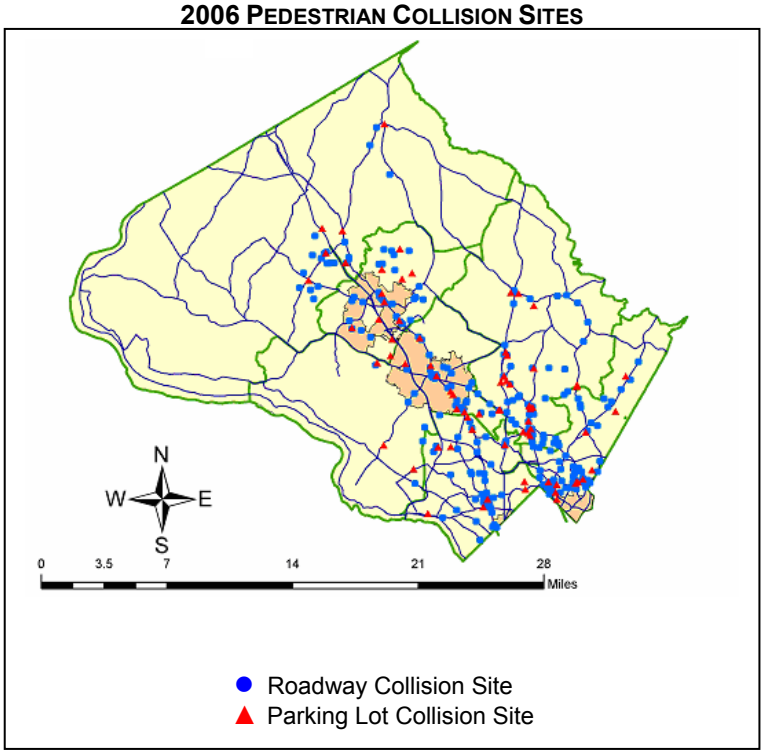


ROAD TYPE

Pedestrian collisions occurred primarily on state and county roadways, 34.4% and 33.4% respectively; which is to be expected in that they make up the majority of roadways in the county. Additionally, parking lot collisions accounted for 21% of collisions. Municipal roadways accounted for 7.6% of collisions, US roadways accounted for 2.1%, and the remaining incidents occurred on other public roads, service roads or the information is unknown.

Top roadways in the county and for each district are primarily state roadways. Randolph Road, ranking number 6, was the only county stretch of roadway on the list of top 10 locations with the most pedestrian-related collisions (8 incidents). Many of the top state roads form main corridors within the county and have substantial portions in densely populated areas. Combined, these top five of roadways comprise 89.21 linear miles through and across the County.

2006 PEDESTRIAN COLLISION SITES



Consistent with previous years, in 2006 Maryland Route 355 had the most pedestrian-related collisions with 26 incidents. This road runs from one end of the county to the other, covering 26.83 miles of roadway, which change from multiple lanes to a two-lane road. Additional clustering of events was found along major county corridors and within central business districts.

TOP ROADWAYS FOR PEDESTRIAN COLLISIONS

Route Number	Main Road Name	Total # collisions
Rte. 355	Rockville Pike/Fred. Rd	26
Rte. 97	Georgia Ave	24
Rte. 650	New Hampshire Ave	14
Rte. 193	University Blvd	10
US 29	Colesville/GA/Columbia	9

ALCOHOL/DRUG COLLISIONS

For the purpose of this evaluation, alcohol-related collisions include any individual, driver or pedestrian who was under the influence of alcohol or drugs as noted on the MAARS report under condition, substance detected, or contributing circumstances. This includes any individual who may be under the influence as determined by the law, where there is a presence of alcohol, containers or drug paraphernalia *or* simply by an admission of consuming an alcoholic beverage. Alcohol-related pedestrian collisions in 2006 totaled 9.1% of all pedestrian collisions (38); up from 7.4% of all 2005 incidents (32), and down from 10% (42) when compared to 2004 incidents. An incident sometimes involved more than one party that was under the influence; as well, there were times when a driver or pedestrian was under the influence, yet not held 'at fault'. **Consistently for the past three years, in alcohol or drug-related collisions, the pedestrian was determined to be 'at fault' in a significant number of these collisions; specifically 78.1% in 2006, 67.9% in 2005, and 63.9% in 2004.**

FAULT

In pedestrian collisions, fault typically has been determined to be that of the drivers slightly more than the pedestrians. In 2006, drivers were determined to be solely 'at fault' in 48.4% of collisions and pedestrians in 45.3% of collisions. Drivers and pedestrians each shared fault for 3.1% of collisions; and fault could not be determined in 3.1% of collisions.

'AT FAULT' UNITS BY YEAR

At Fault	2004	2005	2006
Driver	207	219	203
Pedestrian	170	162	190
Both	33	39	13
Not Determined	10	14	13
Total	*420*	*434*	*419*

Similarly, in 2005 and 2004 drivers were solely 'at fault' in 50.5% and 49.3% respectively, and pedestrians were 'at fault' in 37.7% and 40.5% of collisions respectively. As well, both parties were held 'at fault' in 9% of collisions in 2005 and 7.9% in 2004.

Driver 'At Fault'

In 2006, there were 216 'at fault' drivers involved in a pedestrian-related collision. These drivers ranged in age from 17 to 91, with no age data on 33 drivers. Drivers ranging from 40 to 49 years of age were among the highest represented age group, causing 18.5% of collisions (40 drivers); close behind were those individuals 20 to 29 years of age with 16.2% of collisions (35 drivers); and individuals 50 to 59 years of age with 14.4% of collisions (31 drivers).

Another group of individuals that continues to be of interest are young drivers under the age of 21. In past years this age group has represented a significant number of all collisions involving 'at fault' drivers. **In 2006, 'at fault' drivers under the age of 21 were responsible for 4.2% of pedestrian-related collisions.**

At the time of the collision, the 'at fault' drivers primarily were traveling at a constant speed 21.3% of the time; making a left turn 19% of the time, backing 14% of the time, making a right turn 10.6% of the time, and accelerating 9.3% of the time. In addition, these drivers were starting from a traffic lane in 6% of collisions, slowing or stopping in 5.6% of collisions, starting from parked position in 5.1% of collisions, skidding in 3.2% of collisions, and turning right on red in 1.4% of collisions. **Cause can be attributed to pedestrian collisions where the 'at fault' driver was exhibiting the following behavior:**

- **Failure to pay time and attention**
- **Fail to yield right of way**
- **Unsafe backing**
- **Too fast for conditions**

The number of 'at fault' drivers who were under the influence of alcohol or drugs is significantly lower than their pedestrian counterparts. In 2006 there were 7 'at fault' drivers under the influence (21.9%) down from 9 drivers in 2005 (32.1%), and 13 drivers in 2004 (36.1%).

Pedestrian 'At Fault'

More than one pedestrian may be involved in the same collision and of the 203 collisions involving an 'at fault' pedestrian, there were 209 pedestrians ranging from 2 years to 90 years of age. 'At fault' pedestrians under the age of 18 represent 29.2% of collisions (61 pedestrians), while adults between 18 and 30 years of age represent 19.1% of collisions (40 pedestrians). Overall, individuals between the ages 15 and 25 account for one-fifth of pedestrians involved in collisions at 20.6% (43 individuals).

'At fault' pedestrians were on a roadway and not at a crosswalk in 71.8% of the collisions (150); on a roadway at a crosswalk in 13.4% of collisions (28); and outside of the right-of- way in 3.3% of collisions (7). In addition, pedestrians were on the curb in 1.9% of incidents (4), in one incident the pedestrian was on the shoulder, and there was missing data or the pedestrians' location was not known in 9.1% of incidents (19). For the collisions where the pedestrian was not at a crosswalk (150):

- there was no pedestrian signal in 66% of these collisions (99)
- the pedestrian disobeyed the signal in 11.3% of these collisions (17)
- the pedestrian obeyed the signal in 1.3% of collisions (2)
- the data is missing or coded for other in 21.4% of collisions (32)

Of the 111 collisions where there was no pedestrian signal and the pedestrians were held 'at fault', 10% of reports had no cause coded. For the remainder, the contributing circumstances included:

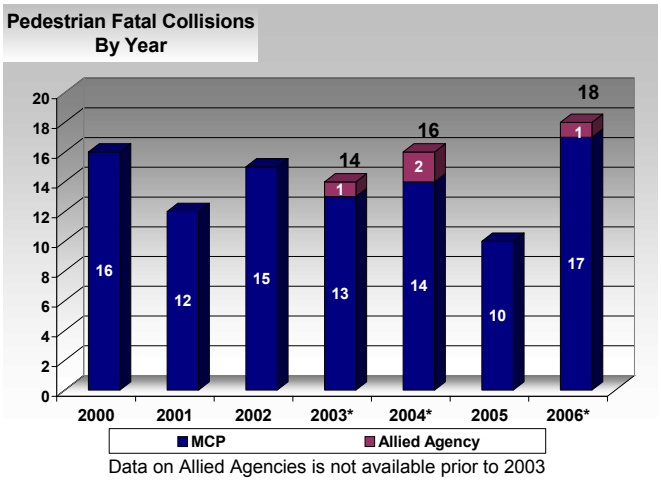
- **Pedestrian illegally in roadway**
- **Failure to pay time and attention**
- **Clothing not visible**
- **Fail to yield right of way**
- **Pedestrian under the influence of alcohol**

Of the 28 'at fault' pedestrians that were traveling on the roadway at a crosswalk, 19 of these disobeyed the pedestrian signal (67.9%) and there was no pedestrian signal at 3 sites (10.7%).

Twenty-five of the 'at fault' pedestrians were coded for alcohol or drugs at the time of the collision representing 78.1% of individuals under the influence, significantly higher than for 'at fault' drivers also coded for alcohol or drugs (21.9%). In addition, there were six pedestrians who were not held 'at fault' in the collision but were coded as alcohol or drug-related and one additional alcohol or drug-related incident where fault was not able to be determined.

FATAL COLLISIONS

In 2006, there were 17 fatal pedestrian collisions investigated by Montgomery County's Collision Reconstruction Unit (CRU); in addition, Takoma Park handled another incident involving a pedestrian that was within the confines of **Montgomery County, for an annual countywide total of 18**. Often times another jurisdiction, or Allied Agency[1], has primary jurisdiction and conducts the reconstruction and investigation; but are within the confines of Montgomery County. For the purpose of this report, details reflect the 17 incidents investigated by Montgomery County's CRU and are those which we have detailed information.



Data on Allied Agencies is not available prior to 2003

By their nature, pedestrian-vehicle collisions typically result in injury or even death. While one fatal collision is too many, **the number of fatalities continues to be a small percentage of all**

[1] Including Maryland State Police, Maryland Park Police, National Institute for Health (NIH), and U.S. Park Police; and in 2006 only Takoma Park Police.

pedestrian collisions. In 2006, fatal pedestrian collisions investigated by MCP, represented 4.1% of all pedestrian-related collisions, slightly up from 2.2% of pedestrian-related collisions in 2005 (10 pedestrians); and 3.3% in 2004 (14 pedestrians).

In 2006's MCP investigated 17 fatal pedestrian collisions. Four pedestrians were in the crosswalks when struck and, of these, two had the right of way; one was crossing against the signal; and one is pending investigation to determine placement of the pedestrian upon impact.

Of the 17 pedestrian-related collisions that MCP investigated in 2006:

- **seven incidents occurred in daylight**, of which six pedestrians and one driver were held 'at fault'
- **eight incidents occurred during dark hours**, two drivers and one pedestrian were held 'at fault' and five are pending investigation
- **two incidents occurred during dusk or dawn**, with one pedestrian 'at fault' and the other incident still under investigation

Each fatal collision undergoes an extensive and thorough reconstruction and investigation to identify fault and cause. **In the 17 incidents that MCP investigated in 2006, fault was determined to be:**

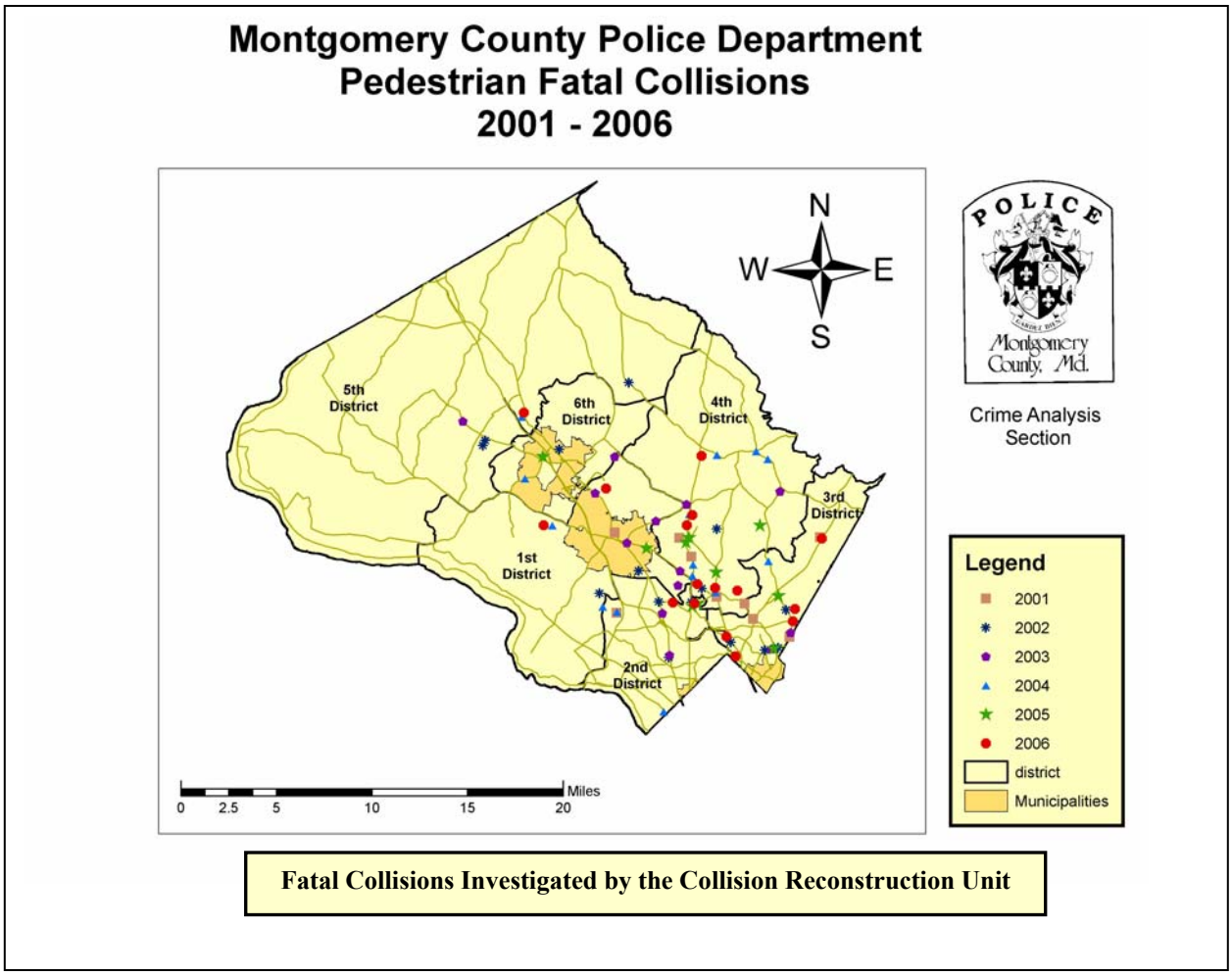
- **the pedestrians' in eight incidents –** where they were illegally in the roadway
- **the drivers' in three incidents –** two failed to yield the right of way to the pedestrian and one driver was drunk and speeding
- **as yet undetermined for six incidents still under investigation**

Dark clothing can be a contributing factor in these collisions, in that 14 of the 17 pedestrians involved in fatal collisions were wearing dark clothing, making visibility difficult.

One of the 17 pedestrian-related fatalities included a speeding vehicle and driver under the influence of alcohol or drugs. In two other incidents speed was a contributing factor, however in these incidents the greater burden was on the pedestrian to yield the right of way to vehicular traffic and the pedestrian was held at fault.

CONCLUSION

The number of pedestrian collisions decreased by 3.5% in 2006; and projected calls for service data shows a reduction in overall reported collisions in the county with pedestrian-related collisions representing just 4% of these calls. The pedestrian collisions remained consistent over previous years, **with most occurring during early afternoon and evening hours on heavily congested roadways. As with previous years, more than half of pedestrian collisions occurred during daylight hours. In addition, the later part of the year consistently has shown peaks in the number of pedestrian-related collisions.** Clustering of incidents was noted in more densely populated parts of the county, specifically near the Central Business Districts in Silver Spring, Wheaton, and sections of Rockville as well as along major thoroughfares. Campaigns should consider targeting these areas during weekdays throughout the year and, in particular, the later part of the year.



COMMUNITY OUTREACH AND AWARENESS

Each year many initiatives are made to improve pedestrian safety throughout the county including enforcement, education and engineering efforts. **In 2006, the police department utilized new technology to assist in this effort, including sign boards to warn drivers of pedestrian traffic and stealth pads to collect and analyze speed data.** The stealth pads have been used to identify areas on local and county roadways where speed was a problem. In addition the police department worked to reduce pedestrian collisions through various initiatives and efforts, including but not limited to:

- Various pedestrian safety **educational details and selective enforcement** were conducted in each district throughout the county targeting pedestrian safety. As well, the 3rd District worked similar details in conjunction with Prince Georges County in the Langley Park area. During these details officers disseminated literature, wrote warnings and issued citations to repeat offenders.

- The 5th and 6th Districts both **targeted high schools** known to have an influx of pedestrians jaywalking before and after school and during lunch hours disseminating literature and warnings.

- The Alcohol Initiatives Unit (AIU) targeted **disorderly and drunken pedestrians** in highly concentrated urban areas in the 3rd, 4th and 6th districts. This has been an ongoing initiative throughout the year, targeting pedestrians, drivers not yielding to pedestrians, as well as establishments for serving intoxicated patrons. Literature provided by State Highway Administration was disseminated and citations written. The AIU unit has noticed a decrease in impaired pedestrians in the areas they have continued to target.

- The School Safety Unit in conjunction with AAA Mid-Atlantic Foundation for Safety and Education teaches the **"Otto the Auto"** program to children in Kindergarten through the 3rd grade. This program is effective in getting through to this age range by using an interactive animated automobile that talks to the children about the importance of wearing seat belts, wearing bicycle helmets, looking both ways before crossing and other pedestrian safety issues.

- The Police Department in a collaborative agreement and in conjunction with the County Executives Office, Public Schools and DPWT have obtained funding for the, **"Safe Routes to Schools"** grant. Funding will be used to evaluate and identify problems in walking safely to schools in order to upgrade or enhance crosswalks and sidewalks around schools, as well as enhancing pedestrian signals and erecting pedestrian crossing signs throughout the county.

- The AIU teaches during **10th grade health class in public schools** targeting the young drivers, primarily addressing drunk driving, but also stressing pedestrian safety and walking in crosswalks.

- The Montgomery County Police Department participated in a **regional educational pedestrian safety campaign** that is aired on county cable, specifying what the law states and questions and answers regarding pedestrian safety issues.

- The Pedestrian Advisory Committee for the past four years has worked with the Council of Government (COG) on the annual **Street Smart Campaign**, an awareness campaign, with heightened enforcement and education utilizing public service announcements on the television and radio; they will continue their efforts and target their education campaigns accordingly; future campaigns will officially begin March 18, 2007 and run through April 14, 2007.

- As part of the **Pedestrian Buffer Program**, the Department of Public Works and Transportation (DPWT) erected a wrought iron fence down the center median along a portion of Veirs Mill Road. While it is too soon to determine any long term effects and progress of such efforts, the fence prohibits most pedestrians from crossing mid-block where it is unsafe to do so and assists with the overall flow of traffic. This is an ongoing program that will begin to look to identify other locations to consider for similar types of pedestrian and traffic safety enhancements

- The DPWT continues to work towards pedestrian safety by installing count down pedestrian signals throughout the County, replacing crosswalks in and around schools, upgrading pedestrian access signs and parking restrictions.

- State Highway Administration (SHA) is continuously working to upgrade and enhance crosswalk and school signs, and change or erect signalized intersection signs to no turn on red in congested downtown areas. In addition, they are working on resurfacing sidewalks, improving and upgrading lighting and access to bus stops and installing a full signal with controlled pedestrian crossing at University Boulevard and Connecticut Avenue.

RECOMMENDATIONS

- Continued enforcement and education throughout the County is suggested for the campaign on pedestrian safety; as are coordinated education efforts between county and state resources and within the private sector. Public safety announcements should be targeted to the various growing communities, specifically the Hispanic and Asian communities.

- The continued enforcement of our main arteries and thoroughfares where there are high concentrations of pedestrian and vehicular traffic is necessary in targeting and reducing pedestrian-related and overall collisions. In addition, the sustained and targeted enforcement on many other roadways that have multiple pedestrian-related collisions should be considered; specifically along
  - Randolph Road
  - Piney Branch Road
  - Veirs Mill Road
  - Connecticut Avenue
  - Old Georgetown Road
  - East West Highway
  - Muncaster Mill Road
  - Parkland Drive

- Future analysis, including using the stealth pads and mapping, should be conducted to identify connecting and secondary roadways that have a high number of collisions in relation to their size and traffic volume.

- Enforcement should continue in the central business districts and areas highly concentrated with pedestrian and vehicular traffic, targeting both drivers and pedestrian for violations. As well, the department should continue their targeted enforcement of drunken pedestrians and establishments serving intoxicated individuals.

- Utilize the variable message signs in highly concentrated pedestrian areas that have been identified as areas of concern to display messages for public education and awareness.

- The traffic squads and district patrol officers should be encouraged to address engineering problems by advancing requests for traffic studies or engineering changes to SHA and DPWT in potential problem areas.

- Continued participation in education and enforcement through the Street Smart Campaign and Pedestrian Safety Week, targeting both drivers and pedestrians.

- Solicit grant funding from Montgomery County Highway Safety Offices for overtime to conduct targeted pedestrian education and enforcement details in areas of identified concern and locations with an influx of pedestrian traffic for each district.

With the combination of education, enforcement and improved traffic devices, it is expected that pedestrian collisions will continue to decline making the streets of Montgomery County a safer place.

All data for this project was generated from the tactical database managed by SOD.
Published data from prior years may have changed due to late reports or process changes.
Angie Lindsay contributed to this report.

Additional analysis is available upon request.

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